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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,227	10/28/2003	Jason D. Hatton	LMS3072P0310US (LS-039)	4959

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WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
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EXAMINER	
KHAIRA, NAVNEET K	

ART UNIT	PAPER NUMBER
3754	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No.	Applicant(s)	
	10/695,227	HATTON ET AL.	
	Examiner	Art Unit	
	Navneet Sonia Khaira	3754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejection under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Rohr et al (US 5,271,531).

Referring to claim 1, Rohr et al discloses a discharge structure for dispensing liquid from a supply of the liquid, the structure comprising:

a discharge conduit (50, fig 2) defining a flow passage for establishing fluid communication from the liquid supply;

a resilient, pressure-actuatable valve (70) that extends across the discharge conduit (50) flow passage in an initial, substantially non-deformed, closed configuration (fig 2), has an interior side for being contacted by the liquid (70, fig 5) and an exterior side exposed to the ambient external atmosphere (fig 2), has a head (96) defining part of the interior side and defining a normally self-sealing closed orifice, and (68) a sleeve defining part of the interior side and extending from the periphery of the valve head to accommodate movement of the valve head outwardly to an open configuration when the pressure on a portion of the valve interior side exceeds the pressure on the valve exterior side by a predetermined amount; and

a restraint structure (90) disposed in the discharge conduit (50) in contact with the valve (70) interior side at the valve head (96) when the valve is in the initial, substantially non-deformed, closed configuration (fig 3, fig 4), the restraint structure (90) and the discharge conduit (50) together defining at least one flow path for initially accommodating flow of the liquid from the supply, the restraint structure (68) being at the base of the valve (70) to prevent the closed orifice from opening inwardly when the ambient external pressure on the valve exterior side exceeds the pressure on the valve interior side.

Referring to claim 2, Rohr et al further discloses the interior side of the valve head includes a central flat surface (fig 5, surface directly below 178) and a peripheral curved surface (fig 5, 92); orifice is defined by slits (94) which extend laterally from the valve head (96) central flat surface (178) into the valve head peripheral curved surface (fig 5, 92); the restraint structure (68) defines a flat engaging surface (fig 5, 76) for matingly engaging the valve head central flat surface, to a location that is at least laterally beyond the slits.

Referring to claim 3, Rohr et al further discloses Lewis et al further discloses a discharge conduit (50) includes an annular wall merging with the periphery of the restraint structure via a plurality of connecting legs (80, fig 7) to define a plurality of flow passages (62, fig 4) accommodating flow against the valve (70) interior side at the valve sleeve (68) laterally beyond the valve head.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rohr et al (US 5,271,531) in view of Lewis et al (US 2002/0074355 A1).

Referring to claim 4, Rohr et al discloses a discharge conduit (50, fig 2) but does not include a pump having a pressurizable reservoir for containing a supply of the liquid. Lewis et al however discloses a pump having a pressurizable reservoir (pump chamber 26) for containing a supply of the liquid (page 3, 0042) in order dispense to the liquid out of the container.

It would have been obvious to combine the valve of Rohr et al in a liquid pump dispenser of Lewis et al in order to dispense the liquid out of the container.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5-9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rohr et al (US 5,271,531)

Referring to claims 5-9, Rohr et al further discloses peripheral mounting flange (98) for a resilient, pressure-actuatable valve (70) that can discharge a fluid product in an outward flow direction and that has a head (96) defining a normally self-sealing closed dispensing orifice and having a sleeve (68) extending from the periphery of the head, the peripheral mounting flange (98) being adapted for being retained by a retention wall (90) that is inelastically deformed against the peripheral mounting flange (98:

resilient material (ring, 90) extending from the periphery of the sleeve (68) in a generally annular configuration about a longitudinal axis that extends axially inwardly and axially outwardly relative to the flow direction (fig 3, col 6, line 34), the generally annular configuration being located around and radially outwardly of the longitudinal axis. Rohr further discloses in fig 3, the ring is of frustoconical configuration which would define surfaces extending generally outwardly and inwardly as well as surfaces that would generally diverge. In fig at least 5 surfaces were disclosed, but to one of ordinary skill in the art, it would be obvious to vary the amount of surfaces on the ring depending on the depth of collar around the valve.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejection under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Maddox et al (US 6,216,916).

Referring to claims 10 and 15, Maddox et al discloses a diaphragm pump comprising:

A. a diaphragm (60) of resilient material molded to define

(1) a resiliently deformable, pressurizing portion that (a) has an undeformed convex configuration as viewed from the exterior, and (b) defines a concave receiving region as viewed from the interior for pressurizing fluid (Fig 8, 60);

(2) a connecting member (61, fig 8) lines extending from the periphery of the pressurizing portion; and

(3) a mounting flange (100) that extends generally radially from the periphery of the connecting member (61), is thicker than the connecting member, has a first surface (101) extending outwardly from the connecting member in the direction toward the exterior, and has a second surface (inner circle from 101) extending inwardly from the connecting member in the direction away from the exterior (Fig 8, 100, 101, 61);

B. a pump housing defining an inlet (52) and outlet (200) and further including a retention structure (retention wall 51b) for retaining the diaphragm (60) and mounting flange (100), the retention structure (51b, fig 8) including a projecting wall that has a lateral surface and an end surface, the wall end surface being spaced from the diaphragm connecting member when the pump is not pressurizing the fluid, the wall lateral surface being spaced from the diaphragm mounting flange second surface when the pump is not pressurizing the fluid whereby assembly of the diaphragm into the pump housing is facilitated (see fig 3 and 8).

Referring to claim 11, Maddox et al further discloses the mounting flange second surface (surface to which 100 points in fig 8) defines a substantially interior cylindrical surface.

Referring to claim 12, Maddox et al further discloses in which the connecting member (61, fig 8) is arcuate.

Referring to claim 13, Maddox et al further discloses the connecting member (61, fig 8) defines a convex (60, fig 8) surface projecting toward, but not engaging, the retention structure (51b) projecting wall end surface.

Referring to claim 14, Maddox et al further discloses at least a portion of the retention structure (61) is engaged by a portion of the mounting flange (101).

Referring to claim 15, Maddox et al further discloses the diaphragm includes an annular base wall (62, fig 8, also extending below 61) around the bottom of the pressurizing portion in which the stress isolation connecting member (101, fig 8) has an arcuate cross section and connects (bottom portion of 62) the annular base wall with the mounting flange (100, fig 8).

Referring to claim 17, Maddox et al further discloses the arcuate cross section (101, fig 8) is of uniform thickness over at least a major portion of its radial length.

Referring to claim 18, Maddox et al further discloses the arcuate cross section(101, fig 8) defines a concave annular channel around the pressurizing portion as viewed from the exterior.

Referring to claim 19, Maddox et al further discloses a diaphragm (60) for a pump having a retention structure that includes an inelastically deformable exterior retention wall, the diaphragm comprising:

(A) a resiliently deformable, pressurizing portion (60) that has an undeformed convex configuration as viewed from the exterior (fig 8), and defines a concave receiving region as viewed from the interior for pressurizing fluid (fig 8, 60)

(B) a mounting flange (100) that is connected with the periphery of the pressurizing portion (fig 3), can be disposed in the pump so that the exterior retention wall can be inelastically deformed against the mounting flange (100),

(a) inner (62, fig 8) and outer (61, fig 8) diverging surfaces wherein the inner (62, fig 8) diverging surface is inwardly of the location of the connection of the flange (100, fig 8) to the pressurizing portion and wherein the outer (61, fig 8) diverging surface is outwardly of the location of the connection of the flange (100) to the pressurizing portion;

(b) a first corner surface (61, fig 8) extending from the outer diverging surface;

(c) a laterally extending surface (top surface of 61) extending from the first corner surface;

(d) a second corner (62, fig 8) surface extending from the laterally extending surface.

Referring to claim 20, the diaphragm pump (60) in which the surface region of the generally annular configuration of resilient material further includes a laterally peripheral surface that has an outer margin (61) and an inner margin (62) wherein the outer margin (61, fig 8) is located laterally further from the pressurizing portion than is the inner margin (62, fig 8).

Citation of Related Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gross et al (US 5,676,289), Gross (US 6,089,419) references also disclose a pressure-actuated valves. WO02/16047reference also disclose a pump dispenser with a diaphragm.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Navneet Sonia Khaira whose telephone number is 571-272-7142. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mar Y. Michael can be reached on 571-272-4906. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Navneet Sonia Khaira
Examiner
Art Unit 3754

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